

Subject card

Subject name and code	Quantitative and Qualitative Research Methods, PG_00177453						
Field of study	Finance and Accounting, Informatics and Econometrics, Management						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2026/2027		
Education level	Master's studies	Subject group			Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			English		
Semester of study	1	ECTS credits			6.0		
Learning profile	academic	Assessment form			exam		
Conducting unit	Department of Statistics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Arkadiusz Kozłowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	0.0	0.0	60
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	60		4.0		86.0	150
Subject objectives	<p>Gaining knowledge about the essence and purpose of scientific research, the essence of scientific theories and the scientific method. Familiarization with methods of reasoning, inference and generalization. Getting to know the specificity of quantitative and qualitative methods, acquiring the ability to select a method for the research problem.</p> <p>Acquiring the ability to search through various economic and financial databases, download data and assess their completeness and reliability. Acquiring the ability to formulate research hypotheses, goals and research questions.</p> <p>Gaining knowledge about non-exhaustive statistical research. Acquisition of practical skills related to the organization and conduct of sample surveys. Acquiring the ability to critically evaluate the results of surveys, understanding the strengths and weaknesses of the survey. Acquiring the ability to quantitatively summarize research results.</p>						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[IiEMU2_W02] The student comprehends advanced theoretical and practical concepts in econometrics, informatics, or statistics, which are essential for a deeper understanding of economic and social phenomena.	The student identifies processes in the organization that require the acquisition of knowledge from quantitative and qualitative research.	[SW4] test/exam - oral or written
	[IiEMU2_U04] Students can choose, develop, and analyze traditional or innovative models of complex economic and social phenomena to make informed decisions.	The student selects a research method adapted to the objectives of the study and the possibility of its implementation. The student selects a qualitative research method adequate to the research problem being solved.	[SU2] presentation/project/paper/report
	[IiEMU2_W05] The student possesses advanced knowledge and understanding of informatics, statistics, and econometrics techniques and tools used to acquire, process, or visualise data to aid in decision-making and verify research hypotheses.	The student selects sampling methods for non-exhaustive research; identifies possible sources of error in survey research. The student is able to characterize qualitative research methods: the grounded theory method, the case study method, action research, and ethnographic methods.	[SW4] test/exam - oral or written
	[FiRMU2_W08] The student possesses a comprehensive understanding of the intricate relationship between accounting and finance within a dynamically changing business environment, as well as the contemporary challenges and dilemmas that arise in this context.	The student recognizes the needs of the company in terms of obtaining data from quantitative and qualitative research.	[SW4] test/exam - oral or written
	[ZARZMU2_W02] The student has an in-depth knowledge and understanding of various organizations, including their complexities, functional areas, internal processes, and their interactions with the environment.	The student identifies processes in the organization that require the acquisition of knowledge from quantitative and qualitative research.	[SW4] test/exam - oral or written
	[IiEMU2_W08] The student possesses a comprehensive understanding of the methods, conditions, directions, and dilemmas involved in applying advanced econometrics, informatics or statistics tools in response to dynamic environmental changes.	The student recognizes the needs of the company in terms of obtaining data from quantitative and qualitative research.	[SW4] test/exam - oral or written
	[FiRMU2_U04] From a finance and accounting perspective, students are able to select and effectively use, adapt, or develop new methods and tools from the fields of management, quality sciences, and economics. They can analyze and forecast economic processes as well as evaluate economic phenomena.	The student selects a research method adapted to the objectives of the study and the possibility of its implementation. The student selects a qualitative research method adequate to the research problem being solved.	[SU2] presentation/project/paper/report
	[ZARZMU2_U09] The student can independently plan and implement the learning process, improve professional skills in lifelong management, and guide others in this area.	The student independently searches for information about the latest research methods.	[SU2] presentation/project/paper/report
	[ZARZMU2_U04] The student can effectively select, use, adapt, or create methods and tools from management, quality sciences, economics, and finance for decision-making.	The student selects a research method adapted to the objectives of the study and the possibility of its implementation. The student selects a qualitative research method adequate to the research problem being solved.	[SU2] presentation/project/paper/report
	[IiEMU2_U01] The student can creatively and profoundly analyze complex social and economic processes using structured knowledge, econometrics, informatics, or statistics tools.	The student explains the complexity of the sample survey, its advantages and limitations. The student interprets the results of qualitative and quantitative research and assesses their usefulness in the process of making business decisions.	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written

Course outcome	Subject outcome	Method of verification
[ZARZMU2_U01] Students can analyze and creatively interpret complex social and economic processes in business decision-making. They use structured knowledge and tools from management, quality sciences, economics, and finance.	The student explains the complexity of the sample survey, its advantages and limitations. The student interprets the results of qualitative and quantitative research and assesses their usefulness in the process of making business decisions.	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written
[FiRMU2_U03] Students can gather data from carefully chosen sources to verify its accuracy. They can then use and present both financial and non-financial information to analyze and evaluate economic processes and phenomena in management and quality sciences, as well as in economics and finance.	The student designs and conducts a survey research, including determining the method of sample selection, data collection technique, designing a questionnaire, coding questions, and conducting a basic quantitative analysis of the obtained data. The student obtains data for qualitative research using many methods, including analysis of source documents, structured and semi-structured interviews, observation and participatory observation. The student obtains data for quantitative research using various financial and economic databases, assesses their reliability and completeness.	[SU2] presentation/project/paper/report
[FiRMU2_U01] Students can analyze and interpret complex social and economic processes and phenomena from a finance and accounting perspective, utilizing structured knowledge and tools from management, quality sciences, economics, and finance.	The student explains the complexity of the survey research, its advantages and limitations. The student interprets the results of qualitative and quantitative research and evaluates their usefulness in the process of financial decision-making.	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written
[ZARZMU2_W05] The student possesses a thorough understanding of advanced methods and techniques for acquiring, developing, and utilizing data in complex decision-making and management processes.	The student selects sampling methods for non-exhaustive research; identifies possible sources of error in survey research. The student is able to characterize qualitative research methods: the grounded theory method, the case study method, action research, and ethnographic methods.	[SW4] test/exam - oral or written
[FiRMU2_W05] The student possesses a comprehensive understanding of advanced and innovative methods, tools, and techniques for obtaining, utilizing, and analyzing data needed to assess the financial situation of various entities in management, quality sciences, economics, and finance.	The student selects sampling methods for non-exhaustive research; identifies possible sources of error in survey research. The student is able to characterize qualitative research methods: the grounded theory method, the case study method, action research, and ethnographic methods.	[SW4] test/exam - oral or written
[FiRMU2_U09] The student can independently plan and implement the process of learning and improving professional skills in lifelong management and guide others in this area.	The student independently searches for information about the latest research methods.	[SU2] presentation/project/paper/report
[FiRMU2_W02] The student possesses a comprehensive understanding of the complexities and functions of both domestic and international financial markets, as well as financial instruments and institutions.	The student identifies processes in financial institutions that require the acquisition of knowledge from quantitative and qualitative research.	[SW4] test/exam - oral or written
[ZARZMU2_W08] The student possesses a deep understanding of management processes, including their objectives, specificity, complexity, and how they relate to other organizational processes, alongside the challenges and dilemmas presented by a dynamically changing environment.	The student recognizes the needs of the company in the field of obtaining and analyzing data from quantitative and qualitative research.	[SW4] test/exam - oral or written

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Subject contents	<ol style="list-style-type: none"> 1. The essence of scientific research, theory and scientific method. Research paradigms 2. Methods of reasoning: induction and deduction. Possibilities and limitations of generalization in inductive research 3. The essence of quantitative and qualitative research (types of business research, stages of the research process, importance of secondary and primary data, statistical description and statistical inference) 4. Sample selection in non-exhaustive studies (the essence and determinants of random and non-random sampling techniques, probabilistic and non-probabilistic sampling methods) 5. Data collection techniques (types, pros and cons) 6. Characteristics of survey measurement (questionnaire design, measurement levels and scales, question coding) 7. Accuracy of sample surveys (concept and classifications of errors in sample surveys, random error, coverage error, non-response errors, measurement errors) 8. Economic and financial databases 9. Research hypotheses vs. statistical hypotheses 10. Quantitative data analysis 11. Qualitative methods: case study, grounded theory, ethnographic research, project method, action research 									
Prerequisites and co-requisites										
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Recommended reading	<p>Basic literature</p> <p>Zikmund W.G., Business Research Methods (5th ed.). The Dryden Press,</p> <p>Saunders M., Lewis P., Thornhill P., Research Methods for Business Students. Pearson Education Ltd.</p> <p>Malhotra N.K., Marketing Research: An Applied Orientation, Global Edition 7th, Pearson Education Ltd.</p> <p>Frost J., Introduction to Statistics: An Intuitive Guide for Analyzing Data and Unlocking Discoveries. Statistics By Jim Publishing.</p>									

	Supplementary literature	<p>Szreder M. Kozłowski A., <i>Wnioskowanie na podstawie prób losowych i nielosowych</i>, Wydawnictwo UG, Gdańsk 2024.</p> <p>Oakshott L., <i>Essential quantitative methods for business, management and finance</i>, Bloomsbury Academic, London 2020.</p> <p>Aczel A.D., and Sounderpandian J., <i>Complete business statistics</i>, McGraw-Hill Higher Education, Boston 2009.</p>
Example issues/ example questions/ tasks being completed	eResources addresses	
Work placement	Not applicable	

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